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WORLDWIDE REPORT
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AUSTRALIA

ENVIRONMENTALISTS SCORE MELBOURNE CLEAN AIR POLICY

Melbourne THE AGE in English 10 Sep 79 p 14

[Text]

Smog would become a permanent feature of Melbourne if a draft policy on air quality was introduced, the Friends of the Earth said yesterday.

"The policy doubles the acceptable standard for ozone or smog, accepting days when the air is a brown soup as normal pollution," said spokesman Mr. Andrew Herington.

"By rigging standards in this way the Government will be able to claim that there are no longer pollution problems in Melbourne," he said.

The draft policy, which the Environment Protection

Authority released for public discussion in June, sets acceptable, detrimental and alert levels for the main pollutants.

It recommends an air pollution alert system to warn the public when pollution is a threat to health.

Friends of the Earth said the EPA should redraft its policy to set standards for genuinely clean air.

"The present standards have been arrived at under pressure from industry, particularly the motor car manufacturers who don't want to introduce the proven pollution-cutting technology in use overseas," Mr. Herington said.

CSO: 5000

WEST AUSTRALIAN SALINITY CONTROL MEASURES DISCUSSED

Perth THE WEST AUSTRALIAN in English 14 Sep 79 p 25

[Text] Government administration of controls aimed at resisting salt encroachment has angered the farmers it sought to protect, according to the deputy leader of the National Party, Mr M. Stephens (Stirling).

He said it was too early for the Government to assume that its rigid clearing controls would retard or reverse salt encroachment.

Mr Stephens was speaking on one of three moves connected with salt control in country water supply areas to be debated in the Legislative Assembly.

Introducing his Country Areas Water Supply Act Amendment Bill, Mr Stephens called for:

- The repeal of the provision allowing the Government to proclaim bans in new areas in the Government Gazette.

- Farmers to be allowed to clean up land that they had started to develop, put new growth on cleared land or pasture and timber on the ground and in windrows.

- Compensation to be considered under the Public Works Act and not solely by private arbitration under present conditions.

The debate was adjourned.

DEFEATED

But a move for a parliamentary select committee to examine and report on the problems and alternative methods of controlling salt levels in WA rivers was beaten by 22 votes to 17.

The Minister for Works, Mr O'Connor, said that the ~~four-point~~ motion introduced by the Opposition spokesman on Agriculture, Mr H. D. Evans (Warren), asked for everything that had been done or was being done by the Government.

Mr O'Connor said that there was no need for a select committee because the Government would listen sympathetically to farmers.

Mr Evans sought the select committee to examine and report on and make recommendations about the problems to farmers, local authorities and communities arising from the Government's amendment to the Country Water Supply Act.

The amendment introduced controls on clearing in the Mundaring Weir and the Denmark catchment areas and the Kent River and Warren River water reserves.

Mr O'Connor said that the Government had been accused of not doing enough about the salinity question.

But it had six or seven agencies doing research on the problem. These included the University of WA, the Public Works Department, the CSIRO, the Agriculture Department and the Environmental Protection Authority.

A committee of senior officers had been set up to coordinate the research.

The Government had brought in an expert from the Eastern States, Professor John Holmes, to advise it.

It was arranging an international symposium on all aspects of salinity to be held in Perth in November next year.

LIBERIAN TANKER SPILLS OIL INTO BOTANY BAY

Wildlife Endangered

Sydney THE SYDNEY MORNING HERALD in English 12 Sep 79 p 3

[Article by Joseph Glascott, Environment Writer]

[Text]

Oil which spilled from the Liberian tanker *World Encouragement* on Sunday moved into Quibray Bay at Kurnell yesterday and covered extensive oyster leases.

A Maritime Services Board officer, Mr David Martin, said 200 men from the board and Caltex, 16 boats and a helicopter were cleaning up the oil spill yesterday.

About half the spill had washed out of the bay to the ocean and had dispersed.

The Fisheries Department had taken oysters from the leases for bacteriological tests to determine whether oil had entered the oyster shells.

The oil also encroached on about two hectares of mangrove swamps, the habitat of birds and marine life along the bay.

Much of the prolific bird life of the bay, including pelicans and seagulls, was contaminated.

The National Parks and Wildlife Service set up a bird aid station at the ranger headquarters in the Kurnell National Park.

Mr Martin said members of the public finding birds contaminated by oil "should not take them home for a bath."

"They should take them to the aid station, where officers

have special chemicals to treat them.

"A rest and recuperation station for affected birds has also been established at Taronga Zoo."

Anti-pollution squads were forcing oil out of the mangrove area with water jets, Mr Martin said.

Pollution booms had been erected across Quibray Bay to try to contain the oil, but about half the bay had been covered by the oil.

Oil was also still washing up on Silver Beach.

Shore groups were pumping it away and also removing the stained sand.

Mr Martin said the Prevention of Oil Pollution of Navigable Waters Act provided for fines up to \$50,000 plus clean-up costs against ships and masters found responsible for oil spills.

The president of the Botany Bay Planning and Protection Committee, Mr Bernie Clarke, said national water pollution services were hours late in coming to the Botany Bay oil spill.

The pollution protection service was "totally inadequate."

"For more than three hours after the spill the only vessel on hand was a seven-metre half-cabin boat with detergent pump," he said.

'Not an Isolated Occurrence'

Sydney THE SYDNEY MORNING HERALD in English 12 Sep 79 p 6

[Editorial: "Oily Waters"]

[Text]

THE SPILLAGE of 20 tonnes of crude oil into Botany Bay is not a minor accident. The amount of oil that leaked into the sea was far less than the 700 tonnes which escaped from a reservoir at Berry's Beach in 1973, but a great deal of damage was done nevertheless. Silver Beach, where Captain Cook made a landfall in 1770, has been covered with an oily slick. Much wild life in the area has been threatened. There is the possibility of serious losses, estimated at up to \$2 million, to oyster farmers. Overall, one-third of Botany Bay has been affected by the oil spillage.

Unfortunately the spillage is not an isolated occurrence. A House of Representatives committee was told last year that there had been 617 reported oil spillages in Sydney Harbour since 1975. The number of spillages has been increasing: there were 250 reports in 1978. How successful, then, have been safety precautions and emergency services? The cure, so far, has worked better than the prevention. However, there is still disagreement among experts over the use of toxic dispersants in in-shore waters. The lack of skimming operations is seen as a major deficiency. There is also criticism that the fines imposed on offenders are too low, compared with the damage caused. This is an argument against the judgments of the courts, not the relevant

legislation. The courts have the power to levy large fines—up to \$50,000. They have contented themselves with imposing substantially lower fines, even though State Ministers have urged them to be more punitive.

At the end of the 1978 session, a Federal Standing Committee on Environment and Conservation warned that Australia faced a threat of larger and more frequent "ship sourced" spillages, caused either accidentally or deliberately. The nation was unprepared to handle this "major environmental problem," the committee said. It recommended an official register of tankers failing to meet recognised safety standards, a dossier on "suspect" ships, compulsory pilotage for all tankers over 10,000 tonnes, an increase in penalties for oil pollution of the sea, and a review of the provision of navigational aids in hazardous areas. Unfortunately, the report was shelved. It should be reconsidered.

Some months ago, the Federal Minister for Transport vetoed further research into the toxicity of dispersants. He said that statistics indicated that in Australian waters tankers were no more frequently the source of marine pollution than other vessels. In the light of what is happening right now at Botany Bay, and what seems certain to happen in the future, the Minister's attitude is short-sighted.

EXPERT: BOTANY BAY PERMANENTLY DAMAGED BY OIL SPILL

Sydney THE SYDNEY MORNING HERALD in English 13 Sep 79 p 3

[Text]

Permanent environmental damage has resulted from Monday's oil spillage in Botany Bay, Dr Anthony Larkum, of the University of Sydney, said yesterday.

Dr Larkum, a senior lecturer at the university's School of Biological Sciences, said permanent damage had been done to seagrass on the bed of the bay by dispersants used to clear the slick — rather than by the oil itself.

He said studies of the seagrass had shown it had been suffering for some time because of other oil spillages, industrial effluents and the changing wave pattern caused by movements in the bay.

"This is just another nail in their coffin," he said.

While the mangroves affected by the oil would die, disrupting their regeneration, this would not be permanent.

Marine life would certainly diminish in the area because

the mangroves and the seagrass provided food for it and acted as nurseries.

Oyster farmers are upset about damage done to the oyster-growing area.

Mr Andrew Derwent, vice-president of the NSW Oyster Farmers' Association, said all the sticks on which the oysters were growing had been coated with oil and some dead oysters could already be seen.

"They all stand a good chance of dying," he said.

Between 25 and 30 per cent of the total oyster supply came from the area.

These were the oysters which would have been eaten in two-and-a-half years' time. The shortage would be so acute that, because the oysters could not be replaced, prices would be pushed up.

A spokesman for the Maritime Services Board, Mr Harvey Shore, said the slick had now been contained and that by the weekend natural processes would help in its dispersal.

NEW SOUTH WALES RAIN FOREST LOGGING STIRS CONTROVERSY

Conservationists' Call for Ban

Sydney THE SYDNEY MORNING HERALD in English 18 Sep 79 p 3

[Text] The Nature Conservation Council of NSW called yesterday for a ban on all logging of rain forest areas in NSW.

The call came as six State ministers made an inspection of Terania Creek forest near Lismore before reporting to Cabinet today on whether logging of the forest should go ahead. (Report this page.)

A spokesman for the council said that rain forests represented only 4.5 per cent of forests controlled by the Forestry Commission, and a ban would mean only a marginal change in present logging operations.

The council also called for an independent public inquiry into logging in NSW.

The council, which represents 65 conservation groups in the State, held a press conference to publicise their stand.

The vice-president of the Australian Conservation Foundation, Mr Milo Dunphy, said that Terania Creek was the issue which had brought up the whole question of the logging of rain forests. But Terania Creek was "just the start".

"The conservation movement has a number of controversial logging issues im-

mediately after Terania Creek," he said.

"There is the Grady's Creek Flora Reserve in the Border Ranges, and the Black Scrub, Washpool and Coffs Harbour forestry district rain forest areas, all on the North Coast."

Mr Dunphy said that contrary to Forestry Commission claims, rain forest destroyed by logging would never regenerate.

He pointed to the commission's own research, which indicated that the long-term effects of logging of rain forest were not known.

The Government must also address itself to the employment problem, Mr Dunphy said.

"We have a rapidly declining employment situation, which has nothing to do with the conservation movement or with the Terania Creek people.

"It was predicted in the 1960s, but the Forestry Commission ignored the prediction."

The executive secretary of the National Parks Association, Mr Peter Prineas, said that the Forestry Commission had admitted that there would be no rain forest logging in 10 years, because the forests available then would not support a mill.

A spokesman for the Terania Native Forest Action Group, Mr Peter Leishman, said that if Cabinet decided to recommence logging in the Terania Creek forest, the demonstrators would immediately return to the forest.

Mr Dunphy said State Cabinet had no alternative but to save Terania Creek.

"They may not do it tomorrow, but they will in the next three or four weeks," he said.

Conservation Minister's Remarks

Sydney THE SYDNEY MORNING HERALD in English 18 Sep 79 p 3

[Report from Joseph Glascott, Environment Writer, in Lismore]

[Text]

The Minister for Conservation and Water Resources, Mr Gordon, said yesterday that he could not see how the State Government could back down from the decision to log the Terania Creek area.

Mr Gordon, who is in charge of forests, was speaking after a sometimes heated inspection tour of the area by a Cabinet sub-committee.

Mr Gordon, who led the sub-committee, said: "When Government ceases to govern we are in trouble."

"If the decision is made to continue logging I am sure the timber workers will be protected in carrying out their lawful duties."

Other committee members were the Minister for Planning and Environment Mr Landa; the Minister for Transport, Mr Cox; the Minister for Education, Mr Bedford; the Minister for Decentralisation, Mr Hallam; and the Minister for Youth and Community Services, Mr Jackson.

Mr Gordon and the other ministers will report their individual impressions of the situation to Cabinet today.

Members of the sub-committee drove over rough, dusty logging trails and trekked through magnificent rain forest during the inspection.

They were accompanied by a large party of logging protesters, Forestry Commission officers and reporters.

The protesters and forestry offices conducted a running battle of words throughout the inspection, and there were some clashes between ministers.

Half a mile through the rain forest the party inspected the logging area where most of the demonstrations took place four weeks ago.

The sub-district forester, Mr Charlie Lemaire, said harassment from about 100 demonstrators running through the forest and stringing wire cables between trees had made the operation very difficult.

"I am amazed that no one was killed," he said.

Mr Bren Claridge, spokesman for the protesters, replied that it was irresponsible for the logging to continue when public concern was so great that people were prepared to place their bodies in front of trees and machines.

Mr Gordon asked how many houses could be built from the trees felled in the forest.

He was told that 600 trees to be logged from the Terania Creek forest would supply timber for about 600 houses.

The issue of the number of trees logged came up again when the party inspected an unlogged rain forest.

Mr Jackson said it appeared from answers to his questions that a road two miles long would be constructed to recover only about 3,000 cubic metres of timber.

Mr Gordon then pointed out Mr Jackson's questions were being answered by the protesters' spokesman.

Mr Jackson replied sharply: "I have listened for hours to the Commissioner of Forests, Mr Henry. These people live here and I am prepared to hear what they have to say."

Cabinet Defers Decision

Sydney THE SYDNEY MORNING HERALD in English 19 Sep 79 p 3

[Report from Joseph Glascott, Environment Writer]

[Text]

State Cabinet has again deferred a decision on the Terania Creek forest logging issue pending a written report from a sub-committee.

The Premier, Mr Wran, said the six-man sub-committee which visited the forest on Sunday and Monday would prepare a written report on the effects of logging on the rain forest and its buffer zone.

"This report will be discussed by Cabinet at its meeting next week," Mr Wran said.

"In the meantime logging of the area will remain suspended."

A majority of the sub-committee is expected to support an inquiry into the Terania Creek logging project.

This would probably involve preparation of an environmental impact statement followed by an inquiry conducted by an independent chairman.

However, a majority sub-committee report will still have to win acceptance by Cabinet, where the Minister for Conservation and Water Resources, Mr Gordon, also in charge of forests, has strong support for logging of the forest.

If Cabinet decides on an inquiry, the issue of the Terania Creek forest is likely to become

part of the Government's general review of rain forest logging.

Cabinet asked Mr Gordon last week to prepare a policy statement on all NSW rain forests.

Continued suspension of logging is putting off the likelihood of the Terania Creek project this year.

Forestry offices in Casino on Monday said the dry weather logging season was being missed.

When the wet season began at the end of the year, loggers probably would not be able to get into Terania Creek until next spring.

A spokesman for the Terania Creek Native Forest Action Group, Mr Bren Claridge, said yesterday the group welcomed Cabinet's decision to continue the deferment of logging.

He said: "This will enable ministers to examine and realise the depth of the issue. I'm confident of a favourable decision."

The president of the Associated Country Sawmillers of NSW, Mr Len Ferguson, said sawmillers were "disappointed and frustrated" at the Government's failure to verify its decision to harvest hardwood forests in Terania Creek.

AUSTRALIA

BRIEFS

PARRAMATTA RIVER POLLUTION--Pollution of the upper reaches of the Parramatta River from stormwater outflow and domestic run-off has become a major problem, according to a study prepared by technical college students. By contrast, discharge of industrial wastes has been largely curbed since the implementation of water-pollution control legislation in 1971. The 66-page report, Pollution Control--Its Effect on Management, has been compiled by a group of management certificate students at Granville Technical College. Its primary objective was to determine the effect pollution-control legislation has had on capital investment along the upper reaches of the Parramatta River. According to the report, legislation has had a negligible effect on production costs and profitability of most companies. Pollution-control costs were not the significant investment consideration for 95 per cent of the companies surveyed. The report recommends another study to determine whether the river could be made navigable to company properties, as an economic alternative to road transportation. [Excerpts] [Sydney THE SYDNEY MORNING HERALD in English 11 Sep 79 p 13]

EFFECTS OF BAN--Job opportunities were being lost through Government environment decisions preventing development of "valuable" mineral sand deposits in NSW, the Mineral Sand Producers' Association said yesterday. Its acting chairman, Mr. Ron Hardwick, said there should be "more positive" indications from governments because recent decisions were not in Australia's best interests. "I would cite the fact that 350 people were put out of work by the decision which stopped mining on Fraser Island," he said. He said mineral sands operations "are the only sector of the mining industry on which environmental restrictions are placed under the new mineral export guide lines." Mr. Hardwick said it was "relevant" that the resources were extracted from small areas which the industry had "shown" to be effectively restored. "Indeed, we are world leaders in environmental protection," he said. [Excerpts] [Melbourne THE AGE in English 13 Sep 79 p 19]

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PHILIPPINES

RISE IN CHEST AILMENTS ALARMS BATAAN HEALTH OFFICERS

Manila PHILIPPINES DAILY EXPRESS in English 4 Oct 79 p 3

[Text] Local health authorities today said there is an alarming increase in chest ailments among residents here allegedly due to air pollution.

Dr Mariano Tamorong, Samal municipal tuberculosis among local folk, was caused by "constant breathing of nauseating air" reportedly coming from a pulp and paper mills located in the town.

No figure of affected persons was mentioned by Dr Tamorong but he described the situation as "alarming."

This situation was also confirmed by the paper mills former physician, Dr Juan Consunji, who said some workers of the factory have developed chest ailments.

The extent of pollution was not only confined to air. Even the Samal river, where the factory reportedly discharges its wastes, is heavily contaminated, it was learned.

The two physicians recalled that several persons became bald and their bodies "severely burned" after taking a bath at Samal river.

Lt. Col. Benjamin Feliciano, Bataan PC commander, today began an ocular inspection of the factory to determine the effectiveness of its anti-pollution facilities.

Local residents have been complaining about the pollution which prompted Defense Minister Juan Ponce Enrile to order the Bataan PC command to look into the matter.

According to Tamorong, the present physician of the factory has admitted that some of the firms' workers also have developed chest ailments.

Tamorong also cited cases in which farm animals have died after drinking water from Samal river.

Samal Mayor Emiliano Flores closed the paper factory early last month due to mounting complaints from local residents. However, the mayor lifted his order recently after receiving a letter from the legal counsel of the firm that the town executive did not have the power to issue such an order.

CSO: 5000

PHILIPPINES

SAMAL RIVER POLLUTION ALARMS FARMERS

Manila PHILIPPINES DAILY EXPRESS in English 7 Oct 79 p 2

[Text] Samal, Bataan--Samal farmers cultivating about 1,500 hectares of land planted to palay are apprehensive over losing their harvest because of polluted water from the San Juan river which they described as "sipping into their rice paddies."

The farmers had traced the cause of pollution of the San Juan river to a paper mill which, they said discharges chemical waste into the river.

They expressed their fear during a meeting this week with the officials of the paper mills, the PC, Bureau of Soils and local government headed by Samal Mayor Emiliano Forbes.

The farmers' fears were bolstered by the testimony of Rufina Tayag, chief analyst of the Bureau of Soils that the chemical wastes discharged by the paper mills were highly toxic and destructive to agricultural crops.

Col. Benjamin Feliciano, provincial PC commander, said he will prevent the paper mills from renewing its license to operate unless its anti-pollution facilities are beefed up.

William Sinclair, resident manager of the paper mills, said additional anti-pollution facilities, including a P6-million processor, will be installed before the mills permit to operate expires this year.

Sinclair offered the farmers and fishermen financial assistance of P40,000 each to compensate for crop damages and marine life. (PNA)

CSO: 5000

BRIEFS

WATER SHORTAGE HITS MABALANE--The Kgatleng District Council has sent two drums each having a capacity of 2,000 liters to Mabalane to meet the acute water shortage there. The shortage was caused by the sole borehole in the village getting dry 2 weeks ago. According to reports from Mabalane, when the village borehole went dry, residents resorted to drawing water from Sikwane 18 km away. The Council Foreman, Mr D. Kelebemang explained that the two drums sent to Mabalane were only going to be used by school children but could not state what measures are being taken to rescue the rest of the villagers. He only confirmed that the borehole that was used when constructing Mochudi/Sikwane road at Segakwaneng was earmarked for watering livestock. Mr Kelebemang further stated that though the borehole went dry last year, the situation was comparatively better than this years. Reports from Modipane, Boiteko and Dikwididi Schools also indicate that water problem prevails there. [Text] [Gaborone DAILY NEWS in English 28 Sep 79 p 1]

CSO: 5000

MEASURES TO CONTROL DOUALA'S URBAN DEVELOPMENT DISCUSSED

Yaounde CAMEROON TRIBUNE in French 24 Aug 79 p 3

[Article by Abenama Omengue: "Fight Against Urban Blight in Douala"]

[Text] The transformation is obvious. Douala is no longer the town that, 20 years ago, was limited to the Joss Plateau and Akwa, considered, respectively, the administrative and commercial headquarters. The economic metropolis is constantly expanding and stretching out on all sides, making the formerly outlying districts part of the urban center. The population, sustained by immigration and considerable health coverage, has nearly quadrupled.

Through this change runs the rapid development which our economic capital has undergone. It could not have been otherwise; Douala is the country's principal port of entry and exit. And the industrial and commercial activities that take place there make it the country's economic heart. Several obstacles still impede its blossoming. Urban development thus appears as one of the most disturbing.

The officials of the technical departments of City Planning and Housing are aware of this problem. Action to control urban development has been underway for more than 3 years. This action, begun with socioeconomic studies of all the neighborhoods, is to result, in the coming years, in the establishment of a city master plan. What is involved, in brief, is the updating and adaptation of the 1959 city plan to the needs of development and population growth. This plan had not kept up with the upsurge and extension of the city. It concerns only the districts of Akwa and the Joss Plateau at Bonanjo, as well as a few surrounding districts. But many districts not covered by this plan are wholly within the city today.

In this category we find New-Bell, New-Deido, Akwa North, Bepanda TSF, Bonaberi, Bassa, and the entire Nylon zone. Here the visitor is struck by the disorganization of housing. The various building plots in these districts are not sufficient to contain the constantly growing population. Thus we see the creation of neighborhoods spontaneously, without lot divisions, where several problems of unhealthiness and relative lack of security arise.

Occupation of the ground is uncontrolled, to such a degree that most of the prepared spaces which the 1959 plan envisioned as being for collective facilities have disappeared in favor of buildings of upper-class or middle-class status. The green spaces and rights of way for streets have become the property of private properties or of collectivities with properly established land titles. The streets are blocked by buildings, impeding circulation between the neighborhoods. In brief, this disorder results from the fact that in most cases, it was not made certain that the lots assigned were viable. While this situation creates disputes among the inhabitants themselves, it is especially embarrassing for the City Planning services; for in a good many cases, the appropriate solution consists in knocking down buildings erected without authorization.

Therefore it is becoming urgent to solve this problem. Ncharro Mama, the chief of the Technical Section of City Planning and Housing with whom we discussed this question at length, declared that it is difficult at present to find an overall solution for all the parts of Douala.

It is necessary to take action sector by sector--all the more so in that there is an acute need for detail plans in the districts sensitive to urban development. Plans of Akwa and Joss-Bonanjo have been worked up and presented to the municipal authorities for approval, with this in mind.

Nonetheless, the studies with a view to preparation of the new master plan are continuing. They are presently at the stage of exploitation of the results of the socioeconomic inquiries carried out on site in recent years. This new plan will be conceived on the basis of the present and future needs as well as the existing infrastructures.

The problem of urban development is so acute in Douala that certain districts have so far been the object of great attention by the services concerned. Solutions have appeared, but they have been quickly rejected, either because they were hasty or because they did not take the local realities into account. However, the search for appropriate solutions continues.

The case of New-Bell has been examined at length in the last 10 years. Situated right in the middle, it is the most popular and most attractive district of Douala. It has the most various activities: commerce, ongoing traffic in lots and houses, production, etc. Buildings and hovels stand side by side, and anyone can find shelter there.

Despite the measures taken by the City Planning services to block anarchic development, at the conclusion of the massive expropriation of New-Bell in 1966, building continues in this district. And the number of inhabitants grows continually. This led the City Planning unit to discard the solution that consisted in razing New-Bell entirely. It would have been necessary, as the chief of the Technical Section of City Planning and Housing explained, to rehouse tens of thousands of evicted people. But to raze everything suddenly would have caused dangerous collective anger among the evictees. And failure

to rehouse would have entailed doing the same operation over again in another district which the evictees would have invaded.

Tomorrow, this fundamental need for the city master plan will be filled. It will be possible to undertake a good number of operations that are impossible today. But will the populations of Douala know how to take full advantage of them? Real estate speculation is already beginning to appear as a serious handicap against all controlled urban development. Thus, parallel circuits for buying and selling lots without registration already exist. On site, the builders neglect to have a city-planning certificate issued before their building-construction or real estate operations. By means of this document, they would at least be able to know whether the lots in which they desire to invest can be used for construction or for other operations.

11267

CSO: 5000

EXAMPLES OF INDUSTRIAL POLLUTION, NEED FOR CONTROL NOTED

Nairobi DAILY NATION in English 12 Oct 79 pp 13, 16

[Article by Calestrous Juma]

[Excerpts] Independent scientific evidence (NATION, October 4) that the Fluorspar Company of Kenya has gravely polluted Kerio Valley waters demolished any claim that Kenya's industrial pollution records are satisfactory.

In most cases this claim is based on the false assumption that absence of pollution evidence is evidence of pollution absence. A careful study of Kenya's industrial effluents is likely to expose more cases of industrial pollution than ever thought of.

According to Swedish ecologist V. Bosholff "The establishment of the fluorspar factory...has highly contaminated the once clean waters of the river and in the last few years destroying the fish and crocodile population."

Bosholff's findings are an indication that there is a serious flaw in Kenya's approach to development. Although the loss of about 3,000 goats due to the pollution may be ignored, the thought that many valley people could have been affected at varying degrees is frightening.

Kenya, like many other developing countries, has become a potential victim of industrial pollution because it has laws which protect and encourage industrial operations but lacks strict guidelines to protect the environment against destructive industrial activities.

A few years ago, toxic discharged from a copal factory at Nakuru threatened to destroy the most scenic and famous flamingo sanctuary in the whole world, the effluent had started killing the aquatic biota that supplied the flamingo with food. And when the factory was moved elsewhere, the Government ironically had to pay large sums of money in compensation.

It is clear from that transaction that Kenya needs to assess its priorities in considering any conflict between the environment and industrial development.

Although Kenya does not have a National Environment Protection Act and has no legal definition of the term "environment" in its legal framework, there are specific provisions which deal with various environmental aspects and one wonders why they are not effectively utilised.

For example, Section 129 (Chapter 242) of the Kenya Laws states that: "It shall be the duty of every local authority to take all lawful and reasonably practical measures...for preventing any pollution dangerous to health and any supply of water which the public...has a right to use or does use..."

The second part of the section gives local authorities power "to take measures against polluting any stream so as to be a nuisance of danger to health."

On the other hand, many developing countries lack the capability to assess industrial impacts on the environment and rely on the good will of the factories to ensure that they do not release toxic effluents. But many factory operators believe in the maximisation of profits and cannot give priority to any measures that could reduce their earnings. It is like setting a thief to catch himself!

"Pollution export" is becoming a major world problem and neither the exporting countries nor international agencies have been able to deal with it adequately. The responsible countries always look for ways to avoid assessing the environmental impacts of their activities.

It is the duty of the affected people to establish their own monitoring and assessing networks so that they can identify dangerous industries and call for the right action from their governments. But this presupposes the setting up of laws which take into consideration the need to harmonise development and environment.

Manufacturers of factories that are dangerous to the environment are known to trot all over the globe studying various countries' legal systems to find out how they can take advantage of lacking anti-pollution guidelines. Many of them echo the absurdity that absence of the law is defence!

Countries like Kenya, which neither have strict legal guidelines to control industrial pollution nor strong scientific and technological bases to facilitate the assessment of various environmental impacts, are potential victims of the machinations of such "pollution salesmen."

With the possibility that many cases of industrial pollution are waiting to be discovered, it is imperative that Kenyans follow the examples set by several Asian countries where pollution monitoring is undertaken by individual citizens--mainly local scientists and science students.

This can only be done as a sacrifice because governments may not have enough money to give as research grants to study industrial pollution. On the other hand, evidence from such findings may place the government in embarrassing situations that require decisions which may have profound effects.

But such challenges would constitute a waste of manpower and resources if the Kenya Government--through the National Environment Secretariat--does not move fast in introducing new environmental laws, particularly the much-needed National Environment Protection Act.

The days when environmental problems conjured up the image of distant, false alarms are over. Serious cases of pollution are unfolding before our own eyes. And the most we can do is to watch helplessly!

What Bosholff has done is to expose a few symptoms of the disease. The tragedy is that we cannot do proper diagnosis without effective legal equipment. Like all other diseases, when pollution is easy to cure, its symptoms are difficult to notice; and when symptoms become clear, the disease is too difficult to cure....

CSO: 4420

NAMIBIA

BRIEFS

KEETMANSHOOP CLEAN-UP CAMPAIGN--On Monday October 15, the third and last phase of the Keetmanshoop Town Council's health programme will go into action, namely Operation Clean-up. It promises to be the largest cleaning-up operation ever undertaken by the Council. According to our correspondent, all Departmental work will be terminated for a period of two weeks, to enable all truck drivers, operators and labourers to participate in the operation. The Mayor of Keetmanshoop, Mr Kurt Johannessen has also appealed to the public to co-operate as much as possible, by collecting all refuse at various points where the Council would remove it free of charge. [Text] [Windhoek THE WINDHOEK ADVERTISER in English 12 Oct 79 p 3]

CSO: 5000

WILD LIFE EXPERT CALLS FOR DDT BAN

Salisbury THE HERALD in English 15 Oct 79 p 3

[Text] DDT should be banned in Zimbabwe Rhodesia, as its continued use will result in the loss of many of the country's birds during the next decade.

That is the view of Mr Ron Thompson, Mashonaland provincial warden for the Department of National Parks and Wild Life Management.

"As a civilised, progressive country, we cannot afford to ignore this timely warning, and it would improve the standing of this country in the eyes of the conserva-

tionists all over the world if we banned its use now," he said last week.

"I believe this to be the single most important ecological challenge we have to face in Zimbabwe Rhodesia today. Failure to remedy the situation will be a dereliction of our duty to the people of this country and its wild life."

Mr Thompson was one of three speakers discussing the benefits and disadvantages of the insecticide at a public meeting in Salisbury, held under the auspices of the Rhodesia Scientific Association.

Sharing the platform were Dr Barry Blair, principal entomologist of the Plant Protection Research Institute of the Department of Research and Specialist Services, and Dr John Phelps, reader in zoology at the University of Rhodesia.

Dr Blair said the country's entomologists have been conservative.

"For this reason, together with foresightedness and the hindsight of others, I believe we will not see the crisis and disaster phases of the use of DDT in Zimbabwe Rhodesia," he said.

Quoting Dr Kenneth Mellanby of the British National Conservancy, Dr Phelps said it had been calculated that between 1955 and 1965 at least 115 million lives would have been lost in India if DDT had not been available to control mosquitoes and consequently malaria.

ADVANTAGES

There were no accurate figures for the number of lives saved in Africa through the use of DDT, he said.

According to Dr Blair, the advantages of DDT are:

"It is inexpensive and effective in controlling a vast range of insects. It is relatively non-toxic to humans, having about the

same toxicity as aspirin. It is persistent, as it is not readily degradable. There can be little doubt that DDT has averted the ravages of famine by protecting crops from pests."

But, he added: "Paradoxically, many of the

advantages of DDT are also its disadvantages. Because it has a wide spectrum of activity it will also kill non-target insects, such as the parasites and predators of the pest species. These parasites and predators are generally more susceptible to DDT than the pest, and therefore succumb more easily, which can have catastrophic effects on the natural control of pest populations.

PERSISTENT

"Without these natural control agents, the small proportion of the pest survivors is able to multiply without hindrance and may reach levels greater than before DDT was supplied. With the persistent action of DDT some insects may be subjected to a sustained selection pressure which will favour those individuals that are inherently able to tolerate the pesticide."

He said the disadvantages were well known to entomologists, adding: "It is for this reason that DDT has been restricted in its usage in this country and why it has been used with discretion in the past."

Dr Phelps said there was no evidence to support the theory that DDT constituted a major problem.

"And there is not a single record of it causing a human death where it has properly been put to use," he said.

Mr Thompson argued that even if the use of DDT was stopped now there was so much cycling within the living

environment, and so much potentially available to enter the cycle, that it would take years to leach the chemical from the eco-system — "despite what many scientists, who try to whitewash its use, may tell us".

He said fish-eating and bird-eating birds were susceptible to DDT contamination, the residues of which build up in their fat reserves.

"A great deal of the reaction of DDT contamination is hidden," he said. "The most obvious is the phenomenon of thin-shelled eggs which crack, are crushed during incubation or otherwise fail to hatch. There is no doubt that many Rhodesian birds are already seriously contaminated."

CSO: 5000

INSECTICIDE BLAMED FOR DEATHS OF MUMBWA VILLAGERS

Sixty in Year

Lusaka TIMES OF ZAMBIA in English 6 Oct 79 p 1

[Text]

ABOUT 60 villagers in Mumbwa district have died in the past 12 months after taking an insecticide called rogor.

In a bid to avert more deaths, the company which supplies the chemical has substituted it with a less toxic one. The deaths occurred either accidentally while some villagers are said to have taken the poison to commit suicide.

This was reported to Mumbwa governor, Mr Loti Samundengo yesterday, by Keembe Member of Parliament, Mr Robinson Chivumo when the governor addressed more than 1,000 farmers at Susu Kandunda station near Mumbwa.

Present at the meeting was Chimwemwe MP, Mr Timothy Chisengatambu who is leading a delegation of Party leaders from Kitwe on a tour of self-help projects in Mumbwa district.

Mr Chivumo appealed to the farmers to refrain from committing suicide by taking the poison.

He said representatives of the company which sold the chemical had also been instructed to supply the chemicals only to farmers who had special storage facilities for the chemical to prevent accidental deaths after drinking rogor.

The MP said villagers in Keembe constituency had undertaken various self-help projects worth more than K33,000 among which were a health centre at Mukulaikwa,

primary school at Chabota and Mweimbi and teachers houses in various parts of the district.

Mr Chivumo said the projects were a result of unity and good Party leadership in the area.

On agricultural production, the MP challenged each village headman to grow at least 50 acres of maize and cotton to set a good example to their people.

Addressing the same meeting, general manager of Lint Company of Zambia, Mr William Matanyani said his company bought six million kilograms of seed cotton from Mumbwa district this year.

Produced

This meant that Mumbwa farmers grew almost half of the total seed cotton of 14.6 million bags produced in Zambia this year, Mr Matanyani said.

There were plans to establish 23 depots in the district two extension officers who would be given cycles to tour farms and offer help to the farmers.

He appealed to his field staff to be patient with farmers as there was nothing to gain in being rude to each other.

Mr Matanyani said his company expected farmers to produce about 16 million kilogrammes of cotton next season, six million kilogrammes above the estimated ten million kilogrammes.

He expressed fears that some of the cotton might go

to waste unless Kafue Textiles of Zambia expanded its operations to cope with the demand. At the moment the factory can only take in about nine million kilogrammes of seed cotton a year.

The Linco chief said it was for this reason that the company was anxious that the Kabwe textile mill should be completed quickly to avoid his company turning down cotton from farmers.

Serious Problem

Lusaka SUNDAY TIMES OF ZAMBIA in English 7 Oct 79 p 1

[Editorial]

[Text]

THE death of 60 villagers in Mumbwa district from an insecticide culled rogor as reported in our sister paper yesterday, highlights a very serious problem which, unfortunately, so far has no answers in sight.

Few people realise the extent to which we are all almost continuously being exposed to one form or other of poison.

These poisons are in paints, floor and furniture polish, book bindings, and of course the insect killers. We move today in a poisoned environment.

Worse still is the fact that we do not at all seem to care. Insecticidal sprays are freely sold in our shops. There they stand on open shelves cheek-by-jowl with foodstuffs, baby wear and other items in common use.

Right now some urgent questions need to be answered. Who enabled those unfortunate villagers to have free access to such a lethal poison? How many more unreported such cases have occurred elsewhere in the country?

What security measures are provided to ensure that the insecticide is used only for the purpose intended? What vigorous checks are there to ensure that it is used and handled only by those qualified to do so?

What is the Ministry of Health and the local Party officials doing to safeguard the health of the people there? Need we hear of more such deaths before appropriate educational measures are taken?

To freely sell sophisticated insecticides to simple village folk is as wicked as to distribute sticks of dynamite to innocent children.

WATER POLLUTION PROBLEMS IN BELORUSSIA

Minsk ZVYAZDA in Belorussian 25 Aug 79 p 1

[Editorial: "Preserve the Purity of the Rivers"]

[Text] Belorussia...All it takes is a glance at a map of the republic to see countless blue arteries flowing in all directions. These are rivers. The Dnepr, the Western Dvina, the Pripyat', the Neman...Everyone is familiar with them. They take into themselves dozens of smaller rivers and streams, bring life to the towns and villages, the industrial enterprises, and the countryside, and serve the people as places of recreation. Add to these another thousand lakes large and small, and manmade reservoirs. Nature has generously shared with man her priceless treasure, water, and it is not for nothing that our republic is known as the land of lakes and blue waters.

But nature's bounteous gifts require thrifty handling by man, a judicious approach to their use. This certainly applies to water resources, whose reserves are not unlimited and which must serve not only our generation but also future generations.

In our country a number of party and governmental decrees have been passed in recent years to conserve and make judicious use of water resources, to protect the main river basins, seas, and lakes against pollution. Of the 11 billion rubles appropriated in the 10th Five-Year Plan for environmental protection, a substantial portion is designated to protect water resources. The funds are being used to build treatment plants, to perfect technological processes for preventing harmful wastes from getting into the rivers, and so on. The CPSU CC and USSR Council of Ministers decree "Additional Measures to Strengthen Environmental Protection and Improve the Utilization of Natural Resources" (December 1978) states that future plans for the construction and remodeling of enterprises and facilities must stipulate the broad use of low-waste technologies, waterless technological processes, water recycling, closed-drainage water and sewer systems, and other advanced methods of protecting the environment against pollution.

The protection of water resources has also been considerably improved in our republic in recent years. Volumes of water recycling in enterprise systems stand at 80 percent. The discharging of polluted waste water into rivers and lakes has been reduced by 2.5 times. It now adds up to less than five percent of the total volume of waste water. This has made it possible to preserve the quality of the water in Belorussia's main rivers. Integrated territorial systems of water and land resource use and protection in the river basins are being worked out in the republic. Such systems have already been approved for the Berezina, Ula, Western Dvina, and Sozh river basins. Special importance attaches to such matters as conservation of the soil and landscape, flora and fauna, fish resources, small rivers and so on. Recently, specialists of 15 scientific-research and project-design institutions of Belorussia and the Ukraine completed work on a project to regulate the Poles'ye's main artery, the Pripyat', whose floodplain resembles a huge lake every spring. All engineering measures are based on the strict principle of protecting the ecological complex and multiplying the natural resources of both the Pripyat' and its adjacent lands.

At the same time, the state of the smaller rivers and bodies of water is still cause for alarm. In fact, evidence for this is seen in letters to the editor. "I live in Yushkevichi, Borisovskiy Rayon," writes M. Kudzin. "I am a senior foreman at a plant in the city. And it is painful to watch the destruction of the little stream Plisa near our village. From Strupen', where the wastewater canal from Pechi empties into it, and from Gora, where water from the Borisov sewer system, poisoned by industrial enterprises, is added to it, the river is a breeding bed of filth and carries all that poison into the Berezina and from there into the Dnepr. Recently a boat from the Ukrainian Environmental Protection Inspectorate found fuel oil in the Dnepr. By following the trail over a great distance, they finally found the source of the pollution: a Borisov municipal sewer main. Clearly, the comrades of the Borisov Environmental Protection Society and the State Inspectorate were completely lacking in diligence and principle. This time enterprise officials, who were grossly violating environmental legislation, calmly paid their fines to the state. This situation has to be rectified. In early August of last year a massive fish die-off was observed in the river. This year the same thing happened. The poisoned fish floated in a solid mass, among them rare species such as eels, pike, chukhon' [unidentified], and sterlets. The Plisa is in danger. Help save the river from dying. This is the desire of the people living in the country villages and in Borisov, for whom the picturesque banks of the river were a wonderful place to pass the time not very long ago," says the writer of this letter. And he is not alone. S. Shkadzinskiy sounds the alarm that numerous small rivers and bodies of water, especially those that have been channelized, are without protective vegetation; this has a damaging effect on their purity and water flow levels. "There have been times," he writes, "when volunteer schoolchildren planted saplings along the Losha near Rachatsa (Minskaya Oblast), but repair crews destroyed the trees in the course of river-bed 'maintenance.' They explained that this was done in accordance with instructions, which state that bushes should not be allowed to grow along

canals. But since when are rivers classified as canals? Even along irrigation canals, according to scientists, trees and bushes should be allowed to grow on one bank. How about rivers, then?" the author reasonably asks.

To close off all sources of pollution of the small rivers and bodies of water (and they are still too numerous), to provide a scientifically-substantiated complex of protective measures--these constitute a vital task of today. The small rivers must be preserved from disaster. Organs of the State Sanitation Inspectorate, Belrybvod [Belorussian Fisheries], and people's control bodies must step up their efforts to protect water resources and to hold more strictly accountable those who violate the laws and abuse that vital natural resource--water. In the noble task of protecting the small rivers and bodies of water, in the struggle to keep them clean and full-flowing, the local Soviets of People's Deputies, the primary organizations of the environmental protection society, Komsomol members and young people, and the whole community must all do their bit.

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CSO: 5000/1095

MEASURES TO CONTROL WATERSHED POLLUTION DETAILED

Tselinograd FREUNDSCHAFT in German 14 Jun 79 p 4

[Article by O. Yekator, deputy chief engineer of the Administration for Water Pollution Prevention, Spoil Bank Fire Control and Soil Reclamation and S. Sharov, chief scientific assistant of the USSR Coal Research Institute]

[Text] Party, soviet and economic organs of the city and oblast of Karaganda are paying constant attention to the solving of ecological problems arising from the rapid industrial and agricultural development of this region. A single industrial enterprise, the Karagandaugol association, has in the current five-year plan earmarked 35 million rubles for the elaboration and implementation of measures connected with the rational utilization and reproduction of natural resources, 8 million of which are destined for the construction of water purification stations, pumping stations and pipelines constituting the technological system designed to protect the water basin from pollution by coal mines and coal separation facilities.

In central Kazakhstan hydrological and climatic conditions are most unfavorable for development in all sectors of the national economy. There is a shortage of water due to poor surface drainage. To solve the region's water supply problem the biggest hydrotechnical complex in the world--the Irtysh-Karaganda canal--was built and put into operation. This doubled the water supply of the Karaganda-Temirtau industrial complex. The underground hydrogeological resources, which currently are grossly underutilized, constitute another resource which can reduce the water shortage. They include the mineshaft and quenching water of the coal mines whose consumption in enclosed water circulation systems mitigates not only the steadily increasing water shortage but also reduces the amount of pollutants released into the watershed of the region.

There is much groundwater in the Karaganda mines. Between 0.2 and 4.7 cubic meters of water have to be pumped to the surface before a ton of coal can be mined. A large part of this water turns into runoff following the topography and pollutes the watershed. At the same time most mines still use the scarce drinking water from the town's water supply system for their own requirements.

The "small rivers" Tentek, Sherubay-Nura, Sokur, Karagandinka, Ashiyli-Airyk, Usinka, Bolshaya Bukpa and Kokpetky are the recipients of the mine runoff. They are all tributaries of the most important river of the region, the Nura, which discharges into the Tengiz sea and Kurgaldshino seas, which, however, are situated in a state nature preserve. Usually the rivers contain fresh water used in places with natural drainage for irrigation purposes.

The unregulated mine runoff, while less polluted than urban waste water and smaller in volume than the waste water discharged by other large-scale industries (the Karaganda Metallurgical Combine, the Synthetic Rubber Works etc.) nevertheless contributes to the deterioration of the ecological situation of the nature preserve.

What is and must be done to improve this situation now and in the future?

The current five-year plan provides for the completion and operation of a complete biological treatment installation at sewage pumping stations in Karaganda and its satellite cities, the construction of new water purification installations, the reconstruction of all such existing facilities in large enterprises which would then return the purified water into the water supply system.

For the future regular diversions of water are planned from the Karaganda-Irtysh canal into the Nura and to replenish the Samarkand, Saran Sherubay-Nura, Dzhartas and other watersheds which were established on the Nura and its tributaries. Also the current release of mineralized mine drainage water into the Nura basin is to be reduced to the utmost and its polluting effect minimized. The application of measures aimed at protecting the environment will continue at the same rate as in the beginning of the five-year plan. Each year water purification plants will go into operation in two to three mines and the complete program is expected to be completed at the start of the next five-year plan. The technological scheme of comprehensive utilization of mine runoff in the mine water supply system and controlled diversion of excess water is also being implemented. The scheme was elaborated by specialists of the Karagandagiproshtakht Institute, the Karagandaugol association, and the Administration for Water Pollution Prevention, Spoil Bank Fire Control and Soil Reclamation.

The most important aspects of protecting the Nura basin from pollution by mine runoff consist of the following measures. Currently 10 of 26 working mines in the area use two-step purification plants including settling basins, filtering stations, and reaction and disinfection complexes. Completing these purification plants will mean that the mine drainage water of the Karaganda coal basin will practically undergo all purification stages ridding it of mechanical and bacteriological pollutants. But the mineral content of the water, amounting to 2.5 to 7 g per liter which exceeds health standards, remains unresolved. Therefore, the bulk of the excess water from the mines will be diverted by means of a system of pumping stations and water

pipelines into the waste water storage facilities of the sewer system pumping stations for treatment of household and industrial waste water of the cities of Abay and Shakhtinsk. The mine drainage water will be added to the urban waste water after the latter has undergone biological purification. Thereby, according to calculations, the waste water will be rendered suitable for irrigation of agricultural land. A considerable part of the mine drainage water will be used to meet the water requirement of large water consumers such as the coal preparation plant Vostochnaya which is under construction and the planned Kazakhstanskaya.

The water purification plants will be operated under the supervision of specialists from the Administration for Water Pollution Prevention, Spoil Bank Fire Control and Soil Reclamation and the Kazhak Coal Industry Research Institute. They will also lend the enterprises in the coal basin technical assistance in perfecting the technology of purifying mine drainage water. Much has been accomplished in removing technical bottlenecks and improving the efficiency of individual steps in purification on plants, finding new and improving existing methods and means, overcoming deficiencies which existed in the building plans, construction and operation of the purification plants by joint effort of these institutions.

In the last 2 years alone 20 rationalization proposals and three inventions related to water pollution control were implemented in the mines. A number of improvements were widely utilized by the design organizations in preparing construction plans for new purification plants. The implementation of these improvements in industry contributed to the improvement of purification plant efficiency, the reduction of construction costs and operation, improvement of working conditions and reliability of operation.

In the foreseeable future the already implemented and the planned measures will lay the groundwork for the rational solution of the environmental problems in the coal basin.

8664

CSO: 1826

CONFERENCE ON SEA AND ATMOSPHERE POLLUTION FROM BOATS

Leningrad SUDOSTROYENIYE in Russian No 7, Jul 79 p 21

[Article under rubric "Activities of the NTO": "Conference on Environmental Protection"]

[Text] In late March of this year the first scientific-technical conference devoted to questions of preventing sea and atmospheric pollution from ships was held in Leningrad. The conference was organized on the initiative of the Environmental Protection Section of the Leningradskaya Oblast Board of the NTO [scientific-technical society] imeni Academician A. N. Krylov, and was called upon to promote the coordination of projects and the exchange of advanced experience and to define the long-range trends for research in this area. The chairman of the organizing committee, S. A. Bogatykh, spoke at the plenary session.

Taking part in the work of the conference were representatives of approximately 60 organizations from various ministries and departments that are interested in the successful solution of the problem. Reports were given at sessions of three sections: "Purification of Runoff and Economic-Everyday Water, and of Water Containing Petroleum," "Thermal Treatment and Reprocessing of Waste Products; Treatment of Gas Discharge," and "Instruments for Monitoring and Automating the Operation of Units to Treat Shipboard Discharge." The reports that evoked the greatest interest were those in which there was an analysis of the economic effectiveness of outfitting ships with units for the purification of runoff water, and there was a description of instruments for monitoring the quantity of petroleum in the dumped materials and the methods of carrying out that monitoring, as well as research on the processes in a shipboard unit of the EOS type. The reports that attracted general attention were the ones devoted to the creation of new equipment for purifying the water running off the ship and for intensifying the methods of such purification; to the means of treating solid and liquid waste products; and to questions of combining the processes of treating shipboard runoff, everyday, and petroleum-containing water and obtaining fresh water.

Those who were present noted the achieved successes, the timeliness of convoking the conference, and the vital nature of the reports, as well as the

large amount of work that had been done by the Environmental Protection Section of the Leningradskaya Oblast Board of the NTO. It was noted by them that the questions of improving Soviet technical means and instruments for monitoring should be considered to be the chief task in assuring the prevention of the pollution of the sea and the atmosphere by ships. In addition, they approved the practical directedness of the projects aimed at the creation of equipment for treating the petroleum-containing runoff and economic-and-everyday water, for reclaiming the petroleum and other waste products on ships, the treatment of solid and liquid waste products, for monitoring them for the content of harmful substances in the dumped materials. The participants deemed it to be timely to have a study of the problems of pulverizing and briquetting the waste products, of treating chimney gases, and substantiating the economic effectiveness of the measures to prevent the pollution of the World Ocean.

The conference recommended to all the interested organizations that they use the materials in the reports when developing means to guarantee the nonpollution of the water environment, and that they coordinate their efforts in this area. Special attention should be devoted to the following basic trends: the substantiation and introduction of the most preferable type of units for the purification of the petroleum-containing water, which assure that the petroleum content in the dumped material is no less than 15 units per million, as well as means for purifying the technological, runoff, and economic-and-everyday water; the creation of multipurpose methods of treating all the ship runoffs in a single unit; and also to guarantee the more complete reprocessing of the waste products. It is necessary to accelerate research on the processes of combustion of solid and liquid media and to intensify the projects involving the production of improved trash-burning furnaces. In addition, it is necessary to determine the optimal volumes of automating the means of preventing the water environment and to develop methodologies for the technical-economic substantiation of equipping the ships with such means. It is necessary to accelerate the projects involved in designing instruments to monitor the dumped materials; in improving the methodologies of analyzing the effectiveness of treating the discharges; and in creating new and improved methods of such treatment. In conclusion it was noted that not all the organizations have been demonstrating rapid rates in their work to create the means necessary for the comprehensive resolution of the problem of protecting the World Ocean.

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5075
CSO: 5000

AIR FILTERING EQUIPMENT DEVELOPED FOR DONBASS

Moscow IZVESTIYA in Russian 27 Sep 79 p 2

[Article by IZVESTIYA correspondent N. Lisovenko, Donetsk: "Powerful Ventilators: The Donetsk Machine-Building Plant imeni Leninskiy Komsomol Has Assimilated the Production of New Industrial Air-Filtering Units"]

[Text] Powerful ventilator units are invariable adjuncts of mines -- coal, potassium, polymetal, and iron-ore mines. Miners exploit deposits of minerals at great depths where the temperature exceeds 30-35 degrees.

Lowering the temperature in mine workings and providing the miners with clean air -- this can be done by the powerful ventilator units being manufactured in Donetsk, which operate in all the coal and mine basins in the USSR, as well as many other countries throughout the world.

A stationary ventilator unit is a complicated engineering structure. For example, for the creation of normal working conditions one ventilator alone feeds into the average Donbass coal mine as much as 42,000 cubic meters of air a minute!

Soviet scientists, and primarily the specialists at Dongsiprouglemash, have created a series of powerful ventilators. The largest among these units are the Sever VTsD-47 type, which have been provided to the mines at the Noril'sk Mining and Metallurgical Combine. They are surprising not only as a result of their productivity, but also as a result of their comparatively compact size: the diameter of the doubled working wheel is only 4.7 meters. The air is pumped by that "propeller" with the speed of a passenger aircraft -- 600 kilometers an hour.

The appearance of new and more powerful ventilators makes it possible for the miners to increase the production of minerals, to reduce the expenditure of electric energy per cubic meter of air fed into the subterranean levels. The Sever VTsD-47 installed at the Oktyabr'skiy Mine in Noril'sk, as a result of the reduction of the capital expenditures for the drilling of additional shifts, made it possible to save approximately 30 million rubles.

5075

CSO: 5000

BAY OF FINLAND POLLUTION: TEAM OF FINNISH-SOVIET VESSELS INVESTIGATING

Tallin SOVETSKAYA ESTONIYA in Russian 10 Aug 79 p 4

[Article, furnished by ETA (Estonian Telegraph Agency): "Protection of the Water in the Bay of Finland"]

[Text] The joint activities by the Soviet Union and Finland in protecting the water in the Bay of Finland basin is varied. In 1979 a number of important measures in this area were carried out. They include the joint expedition that was conducted in May by the Soviet scientific-research vessel Ayu-Dag and the Finnish Aranda, during which expedition work was carried out to develop a uniform approach to the determination of the chemical indicators of sea water: solute oxygen; content of petroleum products, heavy metals, etc. They also studied the possibilities of developing a fishing industry, and of improving the methods of fishing. There was an exchange of experience and a study of the economic aspects of the construction and operation of sewage systems and purification structures for runoff water. The scientists and specialists exchange information dealing with problems of petroleum-protection equipment to be used on ships and in ports, and discussed the possibilities of eliminating emergency spills of petroleum products.

Projects were continued in compiling a Russian-Finnish-English-Estonian dictionary dealing with the protection of the water, which will be published in Finland.

These and other results of the scientific-technical cooperation between the two countries in 1979 were discussed at a session of the Soviet-Finnish Working Group on the Protection of the Water in the Bay of Finland Basin Against Pollution, which session opened in Tallin on 9 August.

On the first day of the work, statements were delivered at the session by the leader of the session -- the chairman of the Soviet side of the working group, TPI [Tallin Polytechnic Institute] professor Kh. Vel'ner, and the chairman of the Finnish side of the working group, director of the Finnish Institute of Sea Research, Professor A. Voipio.

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CSO: 5000

CPSU RESOLUTION ON ENVIRONMENT, RESOURCES PROTECTION

Yerevan KOMMUNIST in Russian 3 Oct 79 p 1

[Editorial: "The Soviets and Environmental Protection"]

[Text] The Communist Party and the Soviet government are devoting unflagging attention to the nationwide job of protecting the environment. Yet another convincing confirmation of this is the decree of the CPSU Central Committee and the USSR Council of Ministers, entitled "Additional Measures for Intensifying the Protection of the Environment and Improving the Use of Natural Resources," which was published early this year.

Among the decisions devoted to problems of protecting the environment are the decrees of the CPSU Central Committee and the USSR Council of Ministers which pertain directly to our republic and which have historical significance for it: "Steps for the Further Development of the National Economy of Armenian SSR," "Steps for the Further Development and Increase in the Effectiveness of Irrigated Agriculture in Armenian SSR," and "Steps to Protect and Use Efficiently the Natural Resources of Lake Sevan."

As a result of the implementation of the steps set down by the party and the government, the protection of the environment in our republic, as the country as a whole, has improved. Under the guidance of party organizations, and with the active participation of the local Soviets, a number of steps of nationwide importance are being carried out. These steps are aimed at protecting and at using efficiently our natural resources. The building of structures to transfer part of the runoff of the Arpa River into Lake Sevan is being completed; a number of water reservoirs and pumping stations have been activated; irrigational systems are being remodeled; a mainline Sevan-Razdan sewage collector system, purification structures, and a collector system for withdrawing runoff water from Lake Sevan are under

construction; and the authorizations to take water from the lake for energy purposes have been discontinued. A lot has already been done and much will still have to be done to carry out the decisions of the republic government to create the Sevan National Park, which was met by all the workers with a great amount of satisfaction.

There has been an increase in the efforts of the local Soviets to organize monitoring over the execution of the laws adopted in the republic which deal with the efficient use of the land and its mineral wealth, the protection of the vegetable and animal kingdom, and the preservation of clean air and water. These questions are included more and more frequently in the agenda of the executive committees and sessions of the Abovyan and Dilizhan City Soviets, the Nairiyskiy and Spitakskiy Rayon Soviets, and a number of village and settlement Soviets.

The best results are achieved wherever the Soviet's executive committee relies upon the permanent deputies commissions, and is able to involve the activists and numerous nature-lovers in the work. One example in this regard might be the Armashskiy Village, Araratskiy Rayon, which was able, with the aid of the sovkhos's party organization, to involve all the inhabitants in the work of beautifying and landscaping the village and of protecting the environment. The initiator of many beneficial undertakings has been the permanent Soviet commission. On the initiative of the deputies, every inhabitant in the village during the current year alone worked no less than 60 hours on "subbotniks" [unpaid days of volunteer labor] to plant trees, clean out bodies of water, and cultivate the flower beds.

Unfortunately, this is not the situation that prevails everywhere. The letters to the editor that our newspaper receives frequently include letters that attest to the fact that certain local Soviets and leaders of enterprises, kolkhozes, and institutions are taking a tolerant attitude toward violations of legislation designed to protect the environment.

The agencies of the republic's prosecutor's office have recorded 558 instances of violation of the rules pertaining to the granting of areas for nonagricultural purposes, as well as the illegal seizure of plots of land which occurred last year. The executive committees of the Aparanskiy, Ashtarakskiy, Kafanskiy, and Tumanyanskiy Rayon Soviets, where such instances are especially frequently, have not been demonstrating the proper adherence to the fundamental principles when considering them, and have been providing little assistance to the state land-management service. Certain ministries and departments, especially the Ministry of the Building-Materials Industry, have been unsatisfactorily fulfilling the assignments pertaining to the recultivation and returning to agriculture of the land that has been worked out.

There have been many instances of violation of the Mineral Resources Code of the Armenian SSR. The local Soviets of Kafanskiy, Tumanyanskiy,

Artikskiy, and Azizbekovskiy Rayon frequently overlook instances of failure to observe the proper sequence of working the deposits; of failure to maintain separate maintenance of mine tailings and empty rocks; of operation of desposits that do not have approved reserves; of incurring large losses when processing non-ore raw materials, or when extracting mineral water from the bowels of the earth; of failure to use the tremendous quantity of tuff and basalt which has accumulated at the quarries.

A number of enterprises and organizations have not been taking the proper steps to assure the strictest observance of the legislation dealing with forests and with the protection of the water resources and the atmospheric air against pollution. A large amount of production discharge continues to get into the Razdan, Pambak, Debed, Vokhchi, Agstev, Arpa, and Sevdzhur Rivers. The construction of purification structures in the cities of Dzhermuk, Alaverdi, and Artik, and in the rayon centers of Maralik, Sisian, and Azizbekov, has been dragging out for years, and the local Soviets have not been exerting any substantial influence upon the economic or construction organizations.

We have not yet seen an end to the cutting down of the forest by poachers, or to violations of the laws and dates that govern hunting. In the forests belonging to kolkhozes and sovkhoses, one might say right in front of a number of village Soviets in Shamshadinskiy, Idzhevskiy, and Megrinskiy Rayons, hundreds of trees have been illegally chopped down.

In the materials of the latest issue of the page "We Who are For Nature Reply," which was published in KOMMUNIST on 29 September and which was devoted to problems of Sevan National Park, there are cited many instances of violation of the ecological regime of the lake, the pollution of the immediate environment, and the slow rates of construction of structures to protect the environment. The local Soviets, and primarily those located on the territory of the Sevan area, must radically improve their monitoring of the observance of the laws dealing with the protection of nature, must intensify the preventive work against violations, and must demonstrate a true adherence to fundamental principles when discussing them.

It is necessary to increase the activities of the permanent commissions of the Soviets, to render all kinds of assistance to the society for the protection of the environment; and when summing up the results of the socialist competition of enterprises and organization, to take into consideration, on a mandatory basis, their fulfillment of the plans and measures pertaining to the protection of the environment.

"Thrifty, painstaking use of natural resources, concern for the land, for forests, for rivers and clean air, for the vegetable and animal kingdoms -- all this is our vital communist job," Comrade L. I. Brezhnev said. Giving that job all our efforts, energy, and knowledge, doing everything to assure that our environment perpetually remains abundant and beautiful, is our common duty.

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CSO: 5000

WATER PURIFICATION SYSTEM WITH REEDS, BACTERIA DESCRIBED

Frankfurt/Main FRANKFURTER RUNDSCHAU in German 17 Sep 79 p 22

[Article by Dietrich Zimmermann: "Australian Reeds for Worried City Fathers"]

[Text] A real inquiry and visitation boom is being experienced presently by the center for ecological chemistry at Kassel University. Word has gotten out that a really satisfactory, workable, natural process for sewage treatment has been developed at this center under the direction of Prof Reinhold Kickuth. The sewage treatment required by a new law has caused the city fathers in small communities many sleepless nights since even small conventional sewage treatment plants are very expensive. The Kickuth concept, on the other hand, which has developed into a commercially operated installation within a period of 5 years in the community of Othfresen north of Goslar, has the advantage of being not only exceptionally efficient but also inexpensive.

The principle of the facility is exceptionally simple: the sewage from the municipality is pumped into a concrete trough 60 m long, 80 cm wide and 30 cm deep. The sewage flows over one side into an abutting reed patch, and nature goes to work. The colonies of microorganisms established around the roots of the reeds break down the waste material to such an extent that the water flowing away from the treatment area into the surrounding region is of drinking quality.

That sounds amazingly simple but is the result of a 15-year research effort, especially that of Professor Kickuth. Its primary goal was to explain, to the greatest extent possible, the mechanisms of waste decomposition. Of nearly equal importance was the additional goal of ascertaining that the principle works under all conditions and that the purification process is sufficiently controllable. Actually, the facility operated by the municipality of Othfresen, which in the meantime has served as a model for a whole series of subsequent facilities, has to survive under significantly more difficult conditions than conventional purification plants. And it is closely monitored.

In the long run, the project has not been impeded by detractors, although in the beginning nature and land conservationists strenuously objected to the open overflow trough. Today they are active supporters because the facility has become a charming aviary inhabited by seldom seen birds, a small man-made paradise. The odor is objectionable only in the area immediately surrounding the trough, where it smells like feces. But only a few meters away, the air is again fresh. The wide area of foul smelling air which is characteristic of many open sewage treatment plants is absent at Othfresen.

A characteristic of the Kickuth concept is that it does not use the plants as an active agent in the material decomposition. Their task is simply to condition the soil with their roots to create a large reservoir for absorbing the sewage and making it accessible to the microorganisms. The sewage should percolate into the soil as rapidly and completely as possible. The waste and nutrient material contained in it is then immediately conducted to the microorganisms and processed by them.

The soil bacteria can be divided into two groups, the aerobes and anaerobes. The aerobes need oxygen to live; the anaerobes on the other hand thrive only in the absence of oxygen. Each of the two groups of bacteria prefers different materials as food; thus they support themselves by selective decomposition of the waste material. Of special significance is the fact that the bad-smelling products resulting from the anaerobic processes are again decomposed by the aerobic microorganisms.

The water plants which are suited for a natural purification facility differ from most other plants in that they can transport atmospheric oxygen via their stems to remote areas along their roots. Because of this, both aerobic and anaerobic zones can form along their roots side by side in the microdomain. This explains the fresh air around the Othfresen facility. In addition each type of plant promotes a very specific microflora with very specific decomposition capability.

Which plants or combination of plants to choose for a waste treatment plant thus also depends on the composition of the sewage. In Othfresen, the Australian reed *Phragmites* was preferred which forms a dense, leafy stand higher than a man's head and has a soft, flowering top. The reed can condition the soil to a depth of 1.2 meters, making it usable for sewage purification. Other plants such as the rush or iris have advantages, of course, but are clearly inferior with respect to soil conditioning.

The quantity of sewage water which can be processed annually by the purification area of about 100 by 100 meters (10,000 square meters) at Othfresen is amazingly large. It corresponds to a water cover of about 12 meters, which is more than 20 times the natural rainfall. The purified water partly evaporates and partly flows away horizontally into the surrounding ground where it keeps alive a natural pond and swamp area which would otherwise dry up. Presently in Othfresen the sewage from about 2500 people is purified. The construction cost of the installation was about 20 to 30 percent of a conventional purification facility of the same size. Its operating cost of 12 to 17 percent is even more favorable.

In the meantime a series of additional facilities patterned after the Othfresen model have been built for treating the sewage of individual farms, small towns and factories. For small quantities of sewage, up to about 10,000 people, this concept is clearly superior economically to conventional purification plants. From 10,000 to 100,000 people, the superiority decreases depending on the purification situation: quantity of sewage, available area, etc. Beyond this the conventional method is cheaper since it is a more compact and organized technical process. However, one should not lose sight of the fact that experience to date shows the quality of naturally purified water to be significantly better, due, in part, to lower quantities of nitrogen and phosphate.

Still to be mentioned is the theoretical projection that the Othfresen facility may have a life of more than 1000 years while, in contrast, conventional installations can only be expected to last 30 to 40 years.

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SOURCES OF SARONIKOS BAY POLLUTION REPORTED

Athens ELEVTHEROTYPIA in Greek 3, 4 Sep 79

[Article by Lena Doukidou]

[3 Sep 79, p 9]

[Text] The discussion over the country's top tourist region started up suddenly in the last few days with a vengeance: The Piraeus Medical Association felt it its obligation to warn the public that the sewage flow from Athens and Piraeus and the mindless and profit-motivated discharge of industrial wastes into the Saronikos Bay have turned the bay into a cesspool, a dead water body full of pollution which chokingly surrounds the country's most populous region.

The minister of social services found it necessary to reply that all areas open to swimming are absolutely safe and, in fact, above the standards set by the European Economic Community [EEC]. He called on the Medical Association and the Panhellenic Center of Ecological Research [PKOE] to identify the sampling areas, the number of tests, the laboratories conducting the tests and the methods used. PKOE immediately called a press conference and made public the results of its Saronikos tests, thus opening a public discussion on the subject.

The newspaper KATHIMERINI in a leading editorial wrote: "Saronikos is right there. All that is needed to solve the mystery is to have an on-the-spot sampling." Maybe it is high time. The dispute flared up not because something new came up but precisely because absolutely nothing has happened.

Situation Worsens

Despite reassurances from the authorities that "everything will be alright," the situation in Saronikos is not getting better. In fact the problem appears to become more acute with every passing day. But let us start from the very beginning.

Following the end of the dictatorship there was intensive activity for the protection of the environment. Article 24 of the new constitution provides

that "the protection of the natural and cultural environment is a state obligation. The state is required to take special preventive or remedial steps to protect it..."

Law 360 "on Land Use and Environment" was enacted in 1976 in implementation of article 24 of the constitution. Few countries have such a provision in their constitutions and few countries have such a law which combines an environmental policy with a policy on land use. Since the environment does not leave any human activity untouched--since all takes place within it--it was necessary to have a single agency to coordinate the national development with the protection of the environment.

Twelve Ministries Have Jurisdiction

Such an agency exists in our country. It is the Land Use and Environment Service [YKhP] at the Ministry of Coordination. Moreover, not just one but 12 ministries have jurisdiction over the protection of the environment and their actions are coordinated by this service. These include the Ministries of Coordination, Social Services, Industry, Interior, Public Works, Transport and Communications, Merchant Marine, Northern Greece, Public Order, Finance, Civilization and Sciences, Agriculture.

In addition to these ministries, the Academy of Athens, the Public Power Corporation [DEI], the Greek Tourist Organization [EOT], the Hellenic Industrial Development Bank [EIVA], and "Dimokritos" also deal with the environment.

Also for a number of years several private organizations have been concerned with the environment, such as: the Technical Chamber, the Greek Society for the Protection of Nature, the Coordinating Committee of Professional Associations for the Protection of the Environment in Salonica, the Greek Chemists Union, the Greek Automobile and Touring Club, the Greek Research Association for the Control of Water, Land and Air Pollution, the E.P.OI.20 [expansion unknown], the Friends of the Forest Association, PKOE, as well as 500 clubs and organizations throughout Greece!

The net result of all this state activity and the pressures from the private organizations, at least with regard to Saronikos, is that at least 84 storm sewers carry into the bay urban and rainwaters. Approximately 20 factories and many handicrafts discharge their wastes of textile, food, beer, plastics and detergents through Ilisos and Kifissos [Rivers] into Moskhato.

The central sewer of Keratsini continues to empty wastes from the entire metropolitan region. The DEI thermoelectric plant discharges its wastes into Agios Nikolaos. Oil, lubricants, paints and ship wastes empty into Piraeus and Skaramangas. The wastes of the Fertilizer Plant have turned the Piraeus waters into a red mass for a radius of at least 500 meters. The IRAKLIS cement plant empties its wastes into Drapetsons. The oil companies empty their wastes between Keratsini and Piraeus.

In addition, there is the massive industrial pollution of the Elefsis Bay which is connected with the Saronikos Bay--pollution caused by the cement factories, steel plants, refineries, shipyards, textile plants, leather factories and ammunition plants.

Obligations Ignored

Since 1975 Greece has ratified the London, Brussels and Barcelona treaties on sea pollution. It has enacted Law 743/77 for the protection of the sea from industrial and shipping pollution. It has issued ministerial decision 181051/2079 of 1978 with lists of substances whose discharge into the sea is banned. No change whatever has come about with regard to pollution in industry except for the expansion of plants.

About 150 million drachmas in fines have been levied against ships alone during the last 10 years. But it is doubtful if any money has been paid. With appeals, postponements and other procedural devices, the shipowners avoid paying. For 2 years now, "committees" at the Ministry of Industry have worked diligently drafting a framework law on the environment, which will set permissible density limits for chemical and industrial particles and the required oxygen and will establish a special waste control agency. This law, which would make the other laws enforceable, has not been drafted yet.

It is rumored that no measures have been taken as regards the sewers of the urban centers in order to blame all pollution on urban wastes to induce public opinion to condone--for how long one wonders--the uncontrolled industrial pollution. Of course the public will pay the price four times over.

First, because existing indications show that there will be serious dangers for public health. Second, because the cleaning of filth, which the government will have to undertake sooner or later, will cost many times over the cost of preventing pollution, and third, because very soon the income from tourism in the Saronikos Bay will disappear, as has been the case with the 50 million Riviera (Blue Coast) tourists who can now be counted on the fingers of one hand.

Environment Being Undergraded

In the meantime, the concern of most people increases, especially in areas such as the Saronikos and Elefsis shores. And so, development which was expected to make life more beautiful and pleasant is more evident in the polluted air, water and ground--that is, the contaminated food, with unknown effects on our health. The private car, a life dream for many people, has only led to suffocating traffic and to recreation in sea waters of questionable purity. The farmer, who left his village and came to the capital because he was suffocating in a deserted and dying area, is now suffocating for other reasons: too many people, congestion, gas fumes,

cementization of everything and--if he can get a ticket--swimming at the "Asteria," but this time only in the swimming pool.

"What to see and what to say first," said Captain Theodoros, captain of a fishing boat which has been plowing Saronikos for many years. "If you are going to think about these things rationally you are going to lose your mind. Some time ago I was working on an Onassis ship, the 'Olympic Challenge.' It had suffered some damage in Port Said and we were coming to the Skaramangas [Snipyards]. All the way we were cleaning the ship's tanks. All the way, passing from Crete all the way to Saronikos the ship was leaving behind an oil slick at least 50 meters wide. We covered Aigina in tar from one side to the other. The cleaning of the tanks stopped only when we reached Preatyda to pick up the pilot.

Plato Proposal

"Every once in a while we hear on the idiot box [note: television] that this or that captain was fined 100,000 drachmas for dumping oil into the sea. I don't know if they ever pay those fines, but I don't hear very often about the Onassis, Niarkhos, Livanos or Lainos companies being fined. I am sure that even if the coastguard patrol happened to pass by while we were dumping the oil into the sea, it would have kept on going as soon as it saw the Onassis five-circle emblem."

Yet, in the country where the shipowners and the industrialists are free to harm the public with abandon, not only do we have laws, ministries and agencies that can be mobilized with a nod--as was done with the banning of crude oil for heating by the apartment buildings--we have specifically for water pollution a law which for 2,000 years has not become reality. This is the law against water pollution proposed by Plato!

[4 Sep 79, p 10]

"Polite People Do Not Pollute the Sea." The sign on the Klevisis beach seems to mock while at the same time is being mocked by a sea which literally stinks. Around the bay, the industrial dinosaurs darken their own image with smoke and the heavy shadow spreads over the rusty, brackish water which certainly looks like anything but a sea.

Below the rusting sign, the water, not only dead but also sickening in color, texture and smell, keeps licking the feet of the few swimmers who lie on the beach still believing that "the Saronikos is now clean since the TV said so." In this very place where a few years back competitions were held among surf-casting fishermen, the small fishing boats are tied in the small harbor, in a sea full of oil slicks, dead fish and green slime and with the oil trucks from the refineries parked all over. The unemployed fishermen have deserted the sea and who knows what each one of them is doing to earn a living. "They just make ends meet," says the lone fisherman in the little harbor as he mends his nets, getting ready to go

fishing. His name is Nikolas and the name of his little boat is also Agios Nikolas.

"Are there any fish around here in the bay?"

"Are you kidding? I am doing my fishing in the Peloponisos. But even there there are less fish than a few years back. In the Akhagia area where I fish I only find some catfish, red snappers, some sea bass, porgies and some small yellowtails. Very few. My wife says 'give it up.' But I am not going to. All my life I have been on the sea, 30 years I have been a fisherman. I don't know anything else. What can I do now?"

"If the bay is cleaned up, do you think the fish will come back?"

"That's not going to happen and there are no plans for such a thing," Nikolas said and went back to mending his nets.

Two shipyards, two refineries, two smelting plants, three steel mills, three cement plants and hundreds of small industrial and handicraft plants employing a total of 35,000 workers. Industrial giants. Nobody dares to tell them: "Please don't throw your trash and your poisons all over!"

They Destroy Farming and Fishing

These factories, among the largest in Greece, were set up, one after another, in the last few years around the small, closed-in bay, destroying its beautiful landscape, covering with cement dust the theater and stadium of the ancient city, destroying the rest of the antiquities with their industrial wastes, destroying all farming and animal raising and the fishing grounds in the area.

Now they have polluted the waters of the bay to such an extent that they spill over and destroy the rest of the Saronikos which is already burdened with the 84 sewers and industrial wastes which empty into the Kifisos and the Keratsini "river" which empties daily into the sea 75,000 cubic meters of urban and industrial wastes.

The shipyards and the industrial plants were concentrated there because of the convenience of the small, closed-in bay, with numerous proletariats around it and a splendid location at a transportation junction of national highways, so close to Piraeus, the country's largest port, and to the headquarters of their companies!

According to the measurements of the Oceanographic Service, the organic carbon in the bay waters is five times greater than the allowable limit while the concentration of iron is great. The bottom of the bay has in some parts murky slime more than six meters deep. The diluted oxygen is permanently below the minimum allowable limits. In some parts the water has started to rot and stink and this is borne out by the tests which show

the presence of hydrosulfur and ammonia. Especially heavy is the biological pollution which reaches astronomical levels of bacterial concentrations.

Unbearable Conditions in Industry

The people of Elefsis at first closed their eyes to this destruction. "They were afraid that they might lose their jobs," we were told by old G. Liaskos, a fisherman who spent 70 years in the Elefsis waters. "Now they are summoned and go eagerly to the trials on industrial pollution each time the poison is too great and the few fish that come this way die. But what is good about it? The water is now dead. They summoned me, too, awhile back. I went to the courthouse twice but the trial was postponed. 'Why do you call me to come here?' I said to the presiding judge. 'Come again if you receive the summons,' he replied."

It is convenient to have industry come where you live. You don't have to go away from your home, your friends, your recreation hangouts. That's what the people of Elefsis wanted and they paid no attention to the antiquities which were covered with cement, to the expropriation of the first farms, to the first dirty waters that were emptied into their bay. 'The sea is wide, life is good,' they used to say. Until they saw sickness increasing all around them--50 to 70 percent more sickness and mortality in Elefsis compared to that of Athens. Pulmonary diseases, heart problems, eye problems took a heavy toll. The number of miscarriages became abnormally high. The number of abnormal and malformed babies has doubled in the last 10 years. Children become ill much more often than before. Now Elefsis resembles a city of irrational people who have built their homes in hell.

The density of industrial dust in the Elefsis atmosphere is the highest in the world--such levels are found nowhere else. Calcium is three times more than that of Agia Paraskevi, 40 times more than that of Copenhagen, 100-600 times more than that of the farm areas in England and Canada, respectively, while the iron is three times more than in the farm areas in England and Canada.

Naturally the pollution is much greater--the conditions are almost unbearable--in the factories themselves. For this reason there have been several strikes in protest of the pollution and unbearable working conditions. Especially in the steel mills, the workers have been going to court constantly since 1977 asking for improvement of their working conditions. The same applies to the workers of "Petrola," "Kronos" and "Votris."

In a recent trial over the dismissal of tens of workers by Kliniki Khalyvourgia who went on strike demanding the installation of filters, the company attorney, Leon Ardis, asked the court to visit the factory to find out whether the grievances were valid.

Children Paint a Rusty-Colored Sea

Judge Vrionis of the Piraeus one-member labor review court indeed went to the factory but the fires were deliberately turned off that day. A worker slid by and started one boiler but he was not able to generate as much dust and gases as those created in the course of a usual working day. The decision is pending.

Gradually, especially since 1975 when Mikhalis Levendis was elected mayor of Eleusis and committees of experts helped the municipality by gathering data on pollution which the Ministry of Social Services did not have or did not want to give, the workers of Eleusis have started mobilizing ecologically and demanding the humanization of their area.

Bread and Poison

The citizens of Eleusis started reacting from the moment their children began to color the sea red and the sky gray instead of blue as they themselves had when they were children. To quote the mayor of Eleusis, "they know that they now have bread on their table but at the same time they put poison in their bodies. They not only hurt their livers, their kidneys, their hearts, but they possibly affect their heredity. In other words, future generations will pay the price for today."

"In other words, has the mentality of 'don't bother the factories' changed?"

"The people here are more politicized than in other areas. It is clearly understood that the pollution of the environment is a purely political question. It is necessary to take measures. It means that several hundred millions of drachmas will have to be spent. Who is going to foot the bill? The industries get loans to install filters and other purification systems and instead they expand their installations. The working people say: 'Why should we pay for this when you exploit us to such a degree? So that you can expand your holdings?'

"The workers reach their own conclusions automatically. The industrialists do not take any measures, while the government covers up for the industrialists because it feels closer to the industrialists than to the workers. On this the workers are clear.

"But what the people of this area have not resolved," according to Mayor Levendis, "is the question of how to get results with their protests when those who have the government on their side are the big industries, the industrial giants of this country--Onassis a few years back, Niarkhos now, Andreadis, Kanellopoulos, Katsambas, Skalistiris. All those big men who governed and continue to govern Greece have their industries here.

"For this reason when the government begins to take measures against pollution in Eleusis, only then can we say that a policy for the protection of the environment has indeed begun."

As we were talking, the mayor's phone rang. The mayor of Megalo Pevko where they have a big headache with the threatened installation of a public cesspool was calling him to ask for his participation in the protest demonstration they are planning. "We have become a traveling illustration," the mayor of Elefsis said. "Whenever they have an environmental problem they call us to tell them what we have suffered from the industrialization."

Megara, Megalo Pevko, Keratsini, Drapetsona, Athens, Piraeus, Agioi Theodoroi, Patrai, Salonica, Volos, Siteia, Itea, Khalkis, Artaki—all these municipalities are working together. But they have yet to achieve the kind of coordinated action proposed by the Elefsis municipality—as a beginning of a nationwide ecological movement based on local self-government. Such a "Panhellenic organization," as the mayor of Elefsis has called it, should be composed of local self-government bodies but also of associations such as the Bar Association, the Medical Society, the architects', archaeologists' and other professional organizations, the universities, polytechnic schools, etc.

"We believe," Mayor Levendis added, "that the pollution problem in Greece must become an international issue and that we should ask UNESCO, the special EEC Commission, the World Health Organization and other international agencies to look into it. Elefsis expects a doubling of the pollution level from moment to moment."

With several permits issued by the junta, the "Khalivourgiki" has reclaimed up to 2,000 stremmas from the sea. The site was public property. In November 1974, with just a signature the government of National Unity "sold" this site to "Khalivourgiki" at 6,000 drachmas per stremma, while the real value was 2 million drachmas per stremma. In 1969 the "Titan" Cement Co. built a new, large factory in the Thriasio Pedio. Because they had no right to build it there, they changed the boundaries of the nome, added this section of Elefsis to the Voiotia Nome and so this plant enjoys the added advantage of tax privileges for provincial industries, together with the use of the mountain which provides the raw material so near to the harbor.

The "Petrola" was established during the dictatorship and now it is to be doubled in size with the permission of Mitsotakis. They sold to this company a 40,000-square-meter site which belonged to the Ministry of Public Works.

In addition to "Petrola's" doubling in size, the 600 million drachma expansion of "Khalivourgiki," the 450 million drachma expansion of "Khaliva," and the multimillion drachma installations of "Klaivourgiki," Elefsis is to get the 250 leather plants from the areas of Athens and Piraeus as well as the transfer of the gas company plant. "Elefsinization" is a word that has become part of the Greek vocabulary. It means Death.

Plato: "Whoever Pollutes the Water Must Pay"

Almost 2,500 years ago, Plato proposed a law on water pollution--definitely more severe than today's laws. "The water is easily polluted, more easily than other natural elements. For this reason it needs the protection of a law such as this:

"If one pollutes the water used by someone else, by throwing in poisoning substances or dirt, or by stealing it, he should be taken to court by the one who is hurt, asking compensation for the loss he has suffered. Anyone sentenced because of pollution should, in addition to paying a fine, clean up the water under the process prescribed by law.'" (Free translation.)

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GOVERNMENT AGREES TO POSTPONE ALTA DAM CONSTRUCTION

Environmentalists, Lapps Win Reprieve

Oslo AFTENPOSTEN in Norwegian 16 Oct 79 p 4

[Text] Development of the Alta river has been postponed for an indefinite time. It is a victory for the demonstrators and a retreat for the government. That is the situation since Prime Minister Odvar Nordli announced at a press conference yesterday the government's decision to open a new Alta/Kautokeino debate in the Storting. And that debate, of course, may end with a "no" to any development at all. The background of the government's decision is partly consideration of Lapp interests and partly the consideration that the demonstrations under way may put human lives in danger. In an urgent personal appeal the prime minister asked that the demonstrations be called off.

The government's resolution consists of four points:

- 1) The government makes a serious appeal for the demonstrations at Stilla and Oslo to be stopped. This is necessary for the constitutional authorities to be able to deal with the matter without the pressure and the danger to human life that a continuation of the demonstrations would involve.
- 2) As soon as possible the government will present a report to the Storting on the government's work in carrying out the Storting's decision on development of Alta/Kautokeino.
- 3) The government is prepared to resume discussions with representatives of the reindeer grazing districts and other interested parties on necessary measures to reduce damage and inconvenience in connection with the construction work in Alta.
- 4) The government has decided to extend the time for presenting applications to get the construction work under way before a decision is made to 6 weeks from today. In addition, the government has decided that work in the construction line will not be continued until the Storting has discussed the report that the government is about to present.

Prime Minister Nordli specified that the government does not intend to invite the Storting to reverse its earlier decision on development. It has not been found that new factors have arisen that will cause the government to alter its attitude toward the reality of the matter. The forthcoming paper will merely report on the government's work in pursuance of the Storting's decision.

In a comment on the point on extended declaration time, Bjartmar Gjerde, minister of oil and energy, said that from the legal point of view there is no ground for giving an extension. But the situation is of such a nature that other considerations told in favor of extending the time. It will not take an especially long time to work out the current report, but the Storting will take whatever time it needs. It is only when the Storting is through with its discussion that it may be feasible to get the construction start going again. When that will take place depends on how much time the government and the Storting need.

The head of the government emphasized strongly that an important reason for the government's decision is for those who have legitimate rights in the area, namely the Lapps, to get the feeling that whatever time is needed is being taken to take those rights into account. In general, consideration of the Lapps' case has been brought forward time after time as a central weight in the scale determining the government's decision. At the same time, it was desired to prevent the serious conflicts that we are already involved in from being allowed to develop further, with harmful effects for our society far beyond the scope of the case actually at issue. The prime minister therefore made an earnest appeal to the demonstrators to restore peace and dignity.

To the question of what would happen if the demonstrations were not called off, Prime Minister Nordli answered that he would regret it very much if the demonstrators did not accept the invitation to a reasonable and peaceful solution. "In case the demonstrations are not called off, they are emphasizing that the demonstrations have an aim other than the Lapps' interests," he asserted. "The demonstrations must then be regarded as a purely political means of achieving the goal of breaking down what we want to make sure of, namely that the government and the Storting shall bear the responsibility and make decisions in this matter. I will not allow the demonstrators to determine the government's line and policy," he continued, and pointed out that it was out of consideration for the Lapps and not the demonstrators that the government put the four points on paper. A continued demonstration will only harm the interests that the government has intended to satisfy.

On the other hand, he stated that a situation such as the one we have now landed in cannot be solved by insistence upon formal and juridical aspects. The Lapps must be met halfway. And it is important for both sides to come down off their high horses. The government itself has refrained from making use of the forcible means it has at its disposal to clear up the situation. Instead, it has opened the way for new debate in the Storting, and

thus also met the demands of members of parliament who considered it necessary to have a new discussion.

He also reminded his hearers of consideration for the construction workers in Alta, who have also fallen into a situation with important problems that need to find a solution. The few police forces that have been sent to the Alta area, by the way, will not be withdrawn for the time being.

Phases of Controversy Traced

Oslo AFTENPOSTEN in Norwegian 16 Oct 79 p 4

[Text] The first proposal to exploit the Alta river for production of electricity was brought forward in 1912. Later there were constantly new proposals, but no specific measures were taken toward development. At the end of the 1960's the planning became more concrete, and in 1970 the debate on a development of the Alta began in earnest in the municipalities concerned.

In August 1970 the Action Committee Against Daming the Masi was founded. In October 1970 the central board of the NVE [Norwegian Watercourse and Electric Power System] inserted an advertisement in ALTAPOSTEN in which it was stated that the State Power Plants were planning development of the Alta with the tributary streams Eiby, Gargia, Tverr, and Joatkajokka, together with Jiesjokka in the Tana system. The deadline for expression of views was 1 May 1971. A number of statements opposed the damming of the Masi.

In 1973 the Storting decided on permanent protection of the Masi, and at the same time it was decided that the plans for development of the Alta would be handled through concessions. On 15 June 1974 the application for concessions for the Alta watercourse was opened for public inspection at Alta, Kautokeino, Karasjok, and Tana.

In May 1975 Jiesijarvi was dropped from the development plans because of the conflict with the reindeer grazing interests and because Finland had reacted to the effects in the Tana watercourse. In September 1975 the revised plan was submitted for discussion with the end of October as the deadline for answers. The time was later extended. The Ministry of Environmental Affairs pointed out on a number of occasions that the matter had not been adequately analyzed. That led the League for Conservation of Natural Resources [Naturvernforbundet] to complain to the Civil Grievance Officer [Sivilombudsmannen] concerning the procedure followed by the State Power Plants. The case was rejected.

Alta and Kautokeino Say No

Early in 1976 a number of statements on the concession application were available. Many went against the plans under consideration. The Kautokeino municipal council voted 12 to 5 against development on 19 January, and on 2 March the Alta municipal council also voted against development, 30 to 13. On 2 April the Finnmark county board favored development by 24 to 11.

In March 1976 there was a revised application by the State Power Plants for reduced development. After discussion in the central board of the NVE in 1977, on 10 March 1978 a Storting bill was introduced for regulating the Virdnejavre and constructing power plants in Sautso. At the same time it was proposed to protect several streams. The development plans were thus reduced to embrace only the Alta/Kautokeino watercourse itself.

On 30 November 1978 the Storting passed a measure for development by 90 votes to 36. At the same time it was asked that perpetual protection of Jesjavri, Jesijäkka, Fallejäkka, and Gålutjäkka as well as protection of Skaidi and the remaining watercourses in Kvænangen be made clear.

In the spring of 1979 the Norwegian League for Conservation of Natural Resources prepared a legal case against the state to have the development bill declared invalid. On 6 June 1979 the Storting ruled by a vote of 108 votes to 34 that the Alta matter was not to be taken up again in the Storting, and the same month the Norwegian League for Conservation of Natural Resources sued the state before the lower court at Alta to have the development declared illegal. At the same time the league asked for a temporary halt in the construction work.

Road Blocked

At the beginning of July work began on road construction near Stilla. By 5 July the road was blocked by demonstrators. The barricade at the so-called zero point has since been held by the demonstrators.

In September the decision was handed down in the case that the League for Conservation of Natural Resources had brought. They got no support for their demand for postponement of the construction work, but their right to bring suit on the question of the legality of the development was recognized. That case is expected to come before the court next spring.

On 17 September the police went into action and removed the demonstrators from Stilla. Ninety were brought in and fined, but the police gave up on clearing the road.

The same day the lawyer Leif Dunfjeld, in a letter to the attorney general, demanded a new appraisal of the reindeer grazing interests in the vicinity of Stilla. The reindeer grazing interests later became the focus of the demonstration.

On 9 October seven Lapps began a hunger strike in front of the Storting, but next day they were removed by the police. On 11 October the police again went into action against the Lapps and sympathizers who were gathered in front of the Storting. Reactions to the police action caused a sensation all over the country and abroad, and on 15 October the government decided to postpone the construction work at Alta.

Conservatives Warn of Consequences

Oslo AFTENPOSTEN in Norwegian 16 Oct 79 p 12

[Text] The postponement of the construction works until the Storting has discussed a new report on the development of the Alta/Kautokeino watercourse can have the effect of stimulating other groups later to annul decisions reached democratically in the Storting. It is Kåre Willoch, parliamentary leader of the Conservatives, who makes this assertion in a comment to AFTENPOSTEN. Willoch emphasizes that a new round of declarations in favor of the Lapps concerned is understandable, since the government has committed a formal error.

Willoch says that no right must be abridged because of hurried work, and for that reason Conservatives concur in a new 6-weeks' period for presentation of arguments for the parties concerned. The Conservative parliamentary leader warns, however, against the consequences of postponing the construction works for an indefinite time. He recalls that the government itself has stated that no new objective factors have come into the picture, and recently rejected a new discussion of the matter in the Storting.

Hanna Kvanmo, parliamentary leader of the SV [Socialist Party of the Left], says in a comment that she is at least halfway pleased with the measure. She is not pleased that the government is maintaining its position on developing the watercourse, but she is pleased that a new report will be presented to the Storting and that the construction work will be stopped until the Storting has finished discussing that report. Mrs Kvanmo emphasizes that it may take all winter and spring before the Storting gets through with that report.

But as matters now stand, says Hanna Kvanmo, perhaps the case belongs in the courts rather than in the Storting. The SV voted against the development when the Storting dealt with the matter.

Hans Hammond Rossbach, parliamentary leader of the Liberal Party, says he is pleased with the initiative on the part of the government to postpone the Alta development for the time being and take the matter to the Storting. This gives time to evaluate the legal aspects as well, and surely that can be done relatively quickly, says Rossbach.

Johan J. Jakobsen, parliamentary leader of the Center Party, considers the decision as a "half victory" for the initiative of the parties of the center for postponement of the Alta development. "That the work is not being pushed forward now is a wise decision in a difficult situation," says Jakobsen. Kjell Magne Bondevik, deputy chairman of the Christian People's Party, also thinks the decision goes more than halfway toward meeting the demand for postponement. "A great deal is in the hands of the Storting now, but I do not know whether there can be any change in the majority in

favor of development. That will depend on what explanation we get in answer to the various questions that are raised," says Bondevik.

"The AKP-ml [Workers Communist Party (Marxist-Leninist)] sees the government's decision to postpone construction work on the Alta-Kautokeino as an important victory for the Lapps' hunger strike that was carried out in Oslo," says Pål Steigan, the party chairman. "It also makes it possible to take the matter up for new discussion in the Storting.

"The AKP-ml rejects the government's demand that the camp at Stilla be removed, and supports the People's Action's line that it must be maintained. The Storting's decision on development still has not been scrapped. If the development is carried out, it will be a violation of the Lapps' rights," says Pål Steigan.

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